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13, wo NAA'A' übereinstimmend lesen: Bei Tische erinnerte sie Laertes an ähnliche Fälle. Wenn nun B anstatt sie die Lesart sich aufweist, so ist dies eher als Druckfehler aufzufassen, und nicht als eine von Goethe gewollte Verbesserung, besonders da sich B gerade in diesem Bande viele dergleichen Fehler zu Schulden kommen lässt.

Nähere Ausführungen gedenke ich an anderer Stelle folgen zu lassen.

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### THE GARDENER'S ART IN *THE WINTER'S TALE*

In that most idyllic portion of the fourth Act of *The Winter's Tale* occurs the following dialog:

- Perd. Sir, the year growing ancient,  
Not yet on summer's death, nor on the birth  
Of trembling winter, the fairest flowers o' the season  
Are our carnations and streak'd gillyvors  
Which some call *nature's bastards*; of that kind  
Our rustic garden's barren: and I care not  
To get slips of them.
- Pol. Wherefore, gentle maiden,  
Do you neglect them?
- Perd. For I have heard it said  
There is an art which in their piedness shares  
With great creating nature.
- Pol. Say there be:  
Yet nature is made better by no mean,  
But nature makes that mean; so over that art  
Which you say adds to nature, is an art  
That nature makes. You see, sweet maid, we marry  
A gentler scion to the wildest stock,  
And make conceive a bark of baser kind  
By bud of nobler race; this is an art  
Which does mend nature, change it rather, but  
The art itself is nature.
- Perd. So it is.
- Pol. Then make your garden rich in gillyvors,  
And do not call them bastards.
- Perd. I'll not put  
The dibble in earth to set one slip of them;  
No more than were I painted I would wish  
This youth should say 'twere well and only therefore  
Desire to breed by me.

Several points in this passage have exercised the commentators, and the result is a remarkable confusion, which leaves undetermined the 'gardener's art' to which Perdita refers.

Polixenes clearly refers to grafting and budding as a gardener's art which is used to ennoble wild stocks, but this cannot apply to the production of 'streak'd gillyvors' from the rustic sorts. Grafting is not used on carnations, and would not produce 'streak'd gillyvors' in any case, unless the scion was cut from a plant already 'streak'd.' When Page comments as follows: "Perdita expresses her preference for natural flowers, as contrasted with those in which streaks or spots of color, as white or red, are produced by grafting or inoculation, arts which she dislikes," he is writing botanical nonsense.

In Hudson's edition the editor says: "It would seem that variegated gillyflowers were produced by cross-breeding of two or more varieties; as variegated ears of corn often grow from several sorts of corn being planted together. The gardener's art whereby this was done might properly be said to share with creating nature." This might be true, and still wholly misleading as a commentary. Crossing might occur and produce streak'd gillyvors, but it is fortunate that Hudson is cautious enough not to affirm that this is the art either Perdita or Shakespeare was thinking of.

But when Herford, a decade later, says: "The Art is simply the transmission of the pollen from one flower to another of different color, which may be done either by the hand of man, or by nature, by means of the air and by bees," he becomes specific.

If now Hudson also really meant what Herford specifically says, then both are forgetting one of the first principles of literary interpretation, and committing an anachronism of a glaring kind. Perdita can not possibly refer to an art which Shakespeare himself could not have known, the art of hybridizing by cross-pollination. It was more than half a century after the death of Shakespeare, before Camerarius wrote his work on the sex of plants, which was one of the earliest if not the earliest hint, which the world had of the nature and function of pollen. The NED. also shows that all the terms used to express such ideas and processes are born in the last two centuries. Of course, natural cross-pollination by winds and bees and other insects did take place in all probability, but an art is a definite conscious thing, practised by man in a well-defined way for a spe-

cific end, and Perdita was not referring to a natural process in which the gardener had no share.

There are still other considerations against this interpretation. The term '*nature's bastards*' must not be taken to mean *hybrids*. Bastard never has this meaning in any of its shades (cf. *NED.*). It always implies some *illegitimacy*, *unnaturalness*, *corruption of lineage*. It is perfectly clear from the text what Perdita means. She has heard of an 'art that in their piedness shares with great creating nature.' They are not *pure* nature, but the product of nature plus art, therefore false-born. She herself, a child of nature, as she believes, dislikes them for the share art has in them, whatever added symbolic reference she may make to 'painted women' of the court, or whatever significance of immodesty and fickleness in love the common people attached to the gillyflower itself. Polixenes' argument that nature produces the art which ennoble nature and his subsequent pleading with the rustic princess to fill her garden with streak'd gillyvors and not to call them *bastards*, confirms this view; bastards are not hybrids, but false-born and unnatural.

Perdita's phrase, 'which *some* call nature's bastards,' may raise the question, whether the common people's conception of 'nature's bastards' were the same as that of Perdita and Polixenes. Deighton notes: "Nature's bastards, because of their pied color," as if bastardy might be associated with piedness as the fool's office with the bawble and parti-colored dress. Perhaps he means only that such a variation of color from the standard constitutes unnaturalness and falsity of lineage. And this may be all that the common people meant by the designation used.

Again, that the art is not cross-pollination, is shown by the usual method of growing gillyflowers in Shakespeare's time. In Porter and Clarke's recent edition of this play a citation is made from John Parkinson's *Garden of All Sorts of Pleasant Flowers* of 1679, as follows: "Carnations and gilloflowers be the chiefest flowers of account in all our English gardens. They flower not till late in the year, which is in July, and continue flowering until the colds of the autumn check them or until they have wholly outspent themselves,

and these fair flowers are usually increased by slips." This old writer mentions red, white, and carnation gillyflowers as in cultivation. This is all in perfect keeping with the Shakespearean scene, and with Perdita's refusal 'to set one slip of them' or 'to put the dibble in earth' to plant them. No hint here of cross-pollination or any crude method involving it.

Now, if the art intended by Perdita is neither that which Polixenes plainly refers to, grafting, nor the one which some modern commentators have incorrectly assumed, cross-pollination, hybridizing, what art is left to which she may have referred, which was practised generally in Shakespeare's time?

The question may be perfectly idle, of course, for there is always the possibility that Shakespeare's horticultural knowledge was inexact, and he may have thought that grafting was used on gillyvors, because slips were cut from them as for grafting, or he may have thought of grafting in a loose enough sense to include both inserting in other plants of like kind and setting into earth. Or again he may have readily entertained a notion that the scion and the stock have mutual influence to produce in flower and fruit a third product which like a hybrid shows a blending of qualities of both parents. Such notions of the effect of grafting were pronounced in the Elder Pliny's *Historia Naturalis*, and in Virgil's *Georgics*, and therefore must have been common among the book-learned men of the Elizabethan period. So these 'streak'd gillyvors,' in the absence of any better knowledge, may have seemed to the poet the product of *grafting*.

Such ignorance seems a little too great even for a Shakespeare. It seems hard to believe that he did not know that streaked carnations are not the result of a white scion grafted on a red stock or *vice versa*. Giving up this blanket solution of all difficulties, this all-enwrapping Shakespearean ignorance, we have still one other possible clue.

Halliwell notes that the gillyflower or carnation 'though beautiful in its appearance, is apt, in the gardener's phrase, to run from its colors, and change as often as a licentious female.' Also Prior, in his *Solomon*, notes:

"The fond carnation loves to shoot  
Two various colors from one parent root."

And the group of carnations has since proved itself, in the horticulturist's hands, one of the most variable flowers.

I have recently had the good fortune to come upon an illuminating passage in the "*Stirpium Historiae, Pemptades Sex, sive Libri xxx*" of Rembertus Dodonaeus, physician to emperors Maximilian II. and Rudolph II. at Vienna, and later professor at Leyden. I quote from the Latin translation (Antverpiae, 1583) made by himself from the original Dutch version of the year 1554. Concerning the *Caryophyllum* he says :

"Habentur in hortis ; sed speciosissimi fere in ficilibus vasis.

"Seruntur frequentius avulsis exiguis cum foliis surculis ; seminibus rarius : Nam e semine nati flores ad agrestem naturam redeunt ; minores, minusque odorati, et simplices ; etiam si prius multiplices, redduntur. Adiguntur subinde surculis cum plantantur fissis *Caryophylli* ; quo illorum odorem flores alliciant, et jucundam eorum suavitatem naribus abundantius repraesentent. Vivax est planta, et multis durat annis, si hibernis mensibus, a frigoris injuria tuta, in cellis vinariis, aut aliis similibus locis tepidis asservetur."

Here the situation is clear. The 'caryophylla' i. e., the 'gyroflées' or 'gillyvors' are a complex race like Darwin's pigeons, probably the product of special selection in certain directions to please the gardener's fancy, and run back to wild stock very soon if left to ordinary conditions ; for 'plants grown from seed return to a more rustic character, become smaller, less fragrant, and single.' The only way to preserve the rich clove-like fragrance, large size, doubleness, and novelty of colors, is to keep the plants over winter in greenhouses or warm rooms, and propagate from cuttings, and never trust to seedlings. The gardener's art is clearly first *selective* and then *preservative*.

These conditions for northern Europe and the Netherlands will probably hold good for England. Perhaps, too, the garden 'gillyvors' of England may have been in part importations from the continent.

Whether by original natural unintentional cross-pollination of white and red carnations a family of mixed constitution arose, or whether by a little understood tendency to sport due to

the peculiar Mendelian constitution of the plant, or to the less understood conditions which favor mutation, or what not, a sport was produced which pleased the gardener by its novelty or its beauty, and he did not leave it to mere nature, which might let it perish with the season never to be produced again, but cut slips and propagated the novelty true to its stock. The gardener's art would thus be this selective and preservative art, which helps nature to keep her sports and fantastic self-realizations, instead of letting them perish, thus increasing her gifts of beauty. If our conclusion is correct, then Perdita's last words have fuller significance : "no more than, *were I painted*, I would wish this youth should say 'twere well, and only therefore desire to breed by me.'"

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## OLD HIGH GERMAN NOTES

1. In Braune's *Ahd. Gram.* § 161, Anm. 6, are given instances of the dropping of *t* from the combinations *ht*, *ft*, *st*. This occurs : (1) in composition between consonants ; (2) finally before an initial consonant of the following word ; (3) but also, in a few cases, finally before a following vowel.

The examples of the third class, for which Braune gives no explanation, are for the most part due to haplologic dissimilation : *eigenhaf* [t] *ist* Augsb. Gebet 1 ; *kunf* [t] *ist* O, II, 12, 44 ; *unthurf* [t] *ist* O (V), II, 4, 80 ; *nöt-thurf* [t] O (P), II, 14, 100 ; *ist wuof* [t] T, 149, 8.

2. In the Benedictinerregel 49-51, as printed by Braune, *Ahd. Lib.*, we read :

herteem herzin *keuwiesso* indi einfaltlihero  
tâtîm sinê m cotechundiu pibot keauckan.

This corresponds to the Latin original :

duris corde vero et simplicioribus factis suis  
divina precepta demonstrare.

The OHG. text should plainly be emended so as to read *einfaltliherom* instead of *einfaltlihero*. The change in the text probably resulted from an